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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-------------------------|------------------------------------|------------------------|
| 10/660,825 | 09/12/2003 | Thomas Herbert Peterson | 134687NV (MHM 15085US01) | 7037 |
| 23446 7590 05/13/2009 MCANDREWS HELD & MALLOY, LTD 500 WEST MADISON STREET SUITE 3400 CHICAGO, IL 60661 | | | EXAMINER MEHTA, PARIKHA SOLANKI | |
| | | | ART UNIT 3737 | PAPER NUMBER |
| | | | MAIL DATE 05/13/2009 | DELIVERY MODE PAPER |

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/660,825
Filing Date: September 12, 2003
Appellant(s): PETERSON, THOMAS HERBERT

Joseph M. Butscher
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 14 January 2009 appealing from the Office action mailed 18 November 2008.

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(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

Appellant's brief presents arguments relating to the claim objections to claims 2, 3, 7-13 and 22 for various informalities. This issue relates to petitionable subject matter under 37 CFR 1.181 and not to appealable subject matter. See MPEP § 1002 and § 1201.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,339,799

KAMI

8-1994

(9) Grounds of Rejection

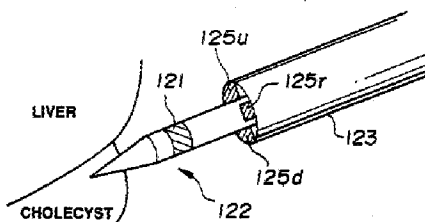
The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

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Claims 1, 4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kami et al (US Patent No. 5,339,799), hereinafter Kami ('799).

Regarding claims 1, 4 and 6, Kami ('799) discloses a medical instrument comprising a support member 123 operatively connected to a needle-tipped laser probe 122 ("a flexible engaging member having an operative distal tip", wherein "flexible" is interpreted as meaning "capable of being bent") and a strain gauge 121 affixed to an outer portion of the needle, wherein the strain gauge detects movement of the operative distal tip of the laser probe (Fig. 18, col. 12 line 62 – col. 13 line 5, col. 13 lines 24-28, col. 28 lines 39-67, col. 29 lines 1-14). The laser probe is interpreted to constitute a needle by the common definition of that term as set forth by Merriam Webster ("a slender pointed object resembling a needle").

FIG. 18

Source: Kami ('799); Drawings p. 11 of 35

Claim Rejections - 35 USC § 103

Claims 2, 3, 5 and 7-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kami ('799).

Regarding claims 2, 3, 8 and 9, Kami ('799) substantially teaches all features of the present invention as previously discussed for claims 1 and 4, but does not expressly teach the strain gauge to change resistance upon deflection, nor does Kami ('799) expressly teach the strain gauge to be within an electrical circuit as claimed. Examiner hereby takes Official Notice that it is known in the art to use a Wheatstone bridge (i.e., an "electrical circuit in which a potential difference occurs when the resistance of the strain gauge changes") with a strain gauge to detect deflection of medical instruments. Accordingly, it would have been obvious to one of ordinary skill in the art to use a known Wheatstone bridge with the strain gauge of Kami ('799) in order to achieve the present invention, as such a combination of known

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prior art elements to yield predictable results has previously been held as unpatentable (see for precedent *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385).

Regarding claim 5, Kami ('799) does not expressly teach a second strain gauge affixed to the laser probe. Applicant does not disclose that the additional strain gauge solves a particular problem, is used for a specific purpose, or presents a patentable advantage over prior art single-gauge arrangements. Furthermore, it has previously been held that the mere duplication of known elements is unpatentable over the prior art (see MPEP 2144, *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)). Accordingly, it would have been obvious to one of ordinary skill in the art to include a second strain gauge on the laser probe of Kami ('799) in order to achieve the presently claimed invention.

Regarding claims 7, 12 and 13, Kami ('799) teaches all features as discussed for claims 1 and 4, and further teaches an optical system that is capable of tracking the position of the laser probe (col. 19 lines 8-37, Fig. 38). Although Kami ('799) does not expressly teach the optical system for specifically tracking the laser probe, Kami ('799) does generally teach the optical system as being useful for performing surgery under precise observation. As such, a skilled artisan would find it obvious to use the optical system of Kami ('799) to track the laser probe, also of Kami ('799), during a surgical procedure in view of the teachings of Kami ('799).

Regarding claim 10, Kami ('799) includes a processing unit 128 that correlates the output of the strain gauge with an amount of movement of the laser probe (col. 13 lines 8-17).

Regarding claim 11, Kami ('799) includes an embodiment having a display that shows the medical instrument (Figs. 35 & 36).

Regarding claims 14-20, Kami ('799) teaches a method of using the system discussed for claims 1-13 including steps of tracking a medical instrument with an optical tracking system (col. 19 lines 8-37), and a method of tracking movement of the distal tip of the needle with the strain gauge (col. 12 line 62 – col. 13 line 5, col. 13 lines 24-28). Although Kami ('799) does not explicitly teach the use of these two methods together in a single procedure, it would have been obvious to one of ordinary skill in the art to do so in view of the teach of Kami ('799) the optical system is advantageous for realizing precise operations (col. 19 lines 11-12).

Regarding claims 21 and 22, the strain gauge of Kami ('799) provides information regarding a location of the deflectable operative distal tip in relation to a longitudinal axis of the support member as previously discussed for claim 1.

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Regarding claim 23, Kami ('799) teaches that the deflection of the strain gauge indicates that the probe is in contact with tissue (col. 13 lines 1-6), which constitutes the provision of information regarding a location of the operative distal tip as claimed.

(10) Response to Argument

Claim 1

Appellant argues that the rejection of claim 1 in view of Kami ('799) is improper because the reference laser probe purportedly does not constitute the claimed needle (Appeal p. 12). Examiner notes that claim 1 does not recite a needle; accordingly, Appellant's arguments have no bearing on the propriety of the rejection.

Appellant further argues that the strain gauge of Kami ('799) does not detect movement of the probe, as required by claim 1 (Appeal p. 13). When the reference strain gauge detects contact with the patient, as clearly set forth by Kami ('799) (col. 13 lines 24-39), the reference does in fact detect movement of the probe. In other words, prior to insertion into the patient, the strain gauge of Kami ('799) detects no pressure; when the probe is inserted into the patient, the gauge detects the contact direction, and such detection of contact constitutes detection of movement, as the gauge would only detect contact if the probe had moved from being outside the patient to inside the patient. Furthermore, even after insertion, the reference strain gauge continuously detects the pressure; as such, while the probe is being moved within the patient, detecting a change in the pressure inherently constitutes detecting movement of the probe, as the pressure can only change when the probe is moved. Accordingly, the previous rejection of claim 1 is proper.

Claim 4

Appellant challenges the Examiner's interpretation of the laser probe of Kami ('799) as constituting the claimed needle, curette, or K wire (Appeal p. 16). Specifically, Appellant purports that the probe of Kami ('799) cannot constitute a needle as applied in the prior Office Action, because Kami ('799) does not describe the probe as a needle, and because a common dictionary definition of "laser" does not definitively equate a laser with a needle. It appears that the Appellant is improperly attempting to limit the Office's interpretation of "needle", whereas the specification does not properly redefine the term so as to put a skilled artisan on clear notice that the term is being used to mean anything other than what is commonly accepted as its definition in the art, as would be required were Appellant properly acting as his own lexicographer. As such, it is well within the broadest reasonable interpretation of the

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term “needle” to take it as meaning “a slender pointed object resembling a needle”, as set forth by Merriam Webster and as relied upon in the previous Office Action. Examiner maintains that the probe 122 shown in Figure 18 of Kami ('799) (see grounds of rejection above) is a slender, pointed object resembling a needle. That the common definition of “laser” does not describe it as necessarily being a slender pointed object is of no bearing on the rejection, as the reference clearly shows the prior art laser as meeting the definition of “needle” in Figure 18. Accordingly, the previous rejection of claim 4 is proper.

Claims 7 & 14

Appellant argues that Kami ('799) does not meet claims 7 and 14 because the reference allegedly lacks the feature of detecting movement of the probe. As previously discussed for claim 1, Kami ('799) clearly meets this limitation, and as such the previous rejection of claims 7 and 14 is proper.

Claims 5 & 17

Appellant attacks the rejection of claims 5 and 17 as obvious over Kami ('799) by asserting that Appellant has shown that the additional strain gauge does in fact present a patentable advantage over the prior art by disclosing the additional gauge “provides additional information” (Appeal p. 17, Specification p. 12 lines 12-13), and therefore the rejection of such duplication as obvious cannot apply. Examiner maintains that “providing additional information” is not a novel, unexpected result of merely duplicating the prior art strain gauge; any person of ordinary skill in the art would readily recognize that additional strain gauges would predictably result in the provision of “additional information”. Furthermore, it has previously been held that the mere duplication of known prior art parts to yield nothing more than an expected result is obvious and unpatentable (*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)). Therefore, the mere duplication of the strain gauge of Kami ('799) to yield multiple strain gauges affixed to the instrument is obvious. Appellant also argues that Kami ('799) does not teach detection of probe movement as set forth in claims 5 and 17, which was previously shown to be unpersuasive as discussed for claim 1. Accordingly, the rejection of claims 5 and 17 is proper.

Claims 7 & 20

Appellant alleges that Kami ('799) does not meet all limitations of claims 7 and 20 for not including an optical, inertial or electromagnetic tracking system (Appeal p. 19). Appellant purports that, because Kami ('799) does not disclose the microscope as tracking the laser probe, the reference cannot meet the claim. Examiner notes that the claims were rejected under 35 U.S.C. 103(a), the grounds of

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which did not include any assertion that Kami ('799) explicitly uses the microscope with the probe. However, Kami ('799) does expressly teach that microscope as being configured to observe a surgical field (col. 19 lines 31-59) and a surgical tool (col. 22 lines 65-66). Any person of ordinary skill in the art at the time of invention would readily recognize that the laser probe of Kami ('799) reasonably constitutes a surgical tool, and that observation of such a tool with a microscope reasonably constitutes optical tracking as claimed; as such, it would have been obvious to one of ordinary skill to have used the probe of Kami ('799) with the microscope of Kami ('799), and thereby yield the claimed invention. Accordingly, the rejection of claims 7 and 20 is proper.

Claims 21 & 22

Appellant attacks the previous rejection of claims 21 and 22 by purporting that Kami ('799) does not disclose "detection of information regarding a distal location" of the probe. As was similarly discussed for the detection of movement limitation of present claim 1, the detection of pressure against the distal end of the probe of Kami ('799) reasonably constitutes detection of information regarding a distal location of the probe. Any person of ordinary skill in the art would readily recognize that the amount of pressure exerted on the distal end of the reference probe reasonably constitutes "information regarding a distal location" of the reference probe. Accordingly, the rejection of claims 21 and 22 is proper.

Claim 23

Applicant attacks the previous rejection of claim 23 by making allegations similar to those presented for claims 21 and 22, which are shown above to be ineffective in overcoming the prior art. Accordingly, the rejection of claim 23 is proper for reasons similar to those presented for claims 21 and 22.

Claims 2, 3, 8 and 9

Appellant does not present in the Appeal Brief any arguments challenging the rejection of claims 2, 3, 8 and 9, other than those previously presented for the independent claims 1 and 7. As Appellant has not traversed the statement of Official Notice relied upon to reject claims 2, 3, 8 and 9 in the previous Office Action, the combination of an electrical circuit in which a potential difference occurs when the resistance of the strain gauge changes, such as a Wheatstone bridge, with a strain gauge to detect deflection of medical instruments is hereby taken as admitted prior art (MPEP 2144.04).

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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Parikha S Mehta/

Examiner, Art Unit 3737

Conferees:

/BRIAN CASLER/

Supervisory Patent Examiner, Art Unit 3737

/Angela D Sykes/

Supervisory Patent Examiner, Art Unit 3762